PATENT ABSTRACTS OF JAPAN

(11)Publication number :   05-068274

(43)Date of publication of application : 19.03.1993

(51)Int.Cl.	HO4Q 3/545
	HO4Q 3/66
	HO4Q 5/00
	HO4Q 11/04

(21)Application number : 03-226760   (71)Applicant : NEC CORP

(22)Date of filing :   06.09.1991   (72)Inventor : MURAMATSU KOICHI

(54) TIME SLOT ACQUISITION SYSTEM FOR H CHANNEL

(57)Abstract:

PURPOSE: To avoid a repetitive call connection request by an H channel terminal equipment whose call connection is rejected because a time slot in an exchange system cannot be acquired.

CONSTITUTION: When an ISDN exchange system 1 cannot acquire time slots of a required number, a time slot number recording processing section 5 stores number of a time slot in use which cannot be acquired and a number of an idle time slot which can be acquired to a memory. A time slot release processing section 6 detects it that a busy time slot is idle. A time slot acquisition request exclusion processing section 7 excludes the idle time slot and an idle time slot acquired at first even when other call makes acquisition request. A period detection processing section 8 detects it that the busy time slots are all idle and the enable connection to relevant H channel terminal equipments 131-13n making a connection request via a primary group interface 11 is informed from a D channel processing unit 10.
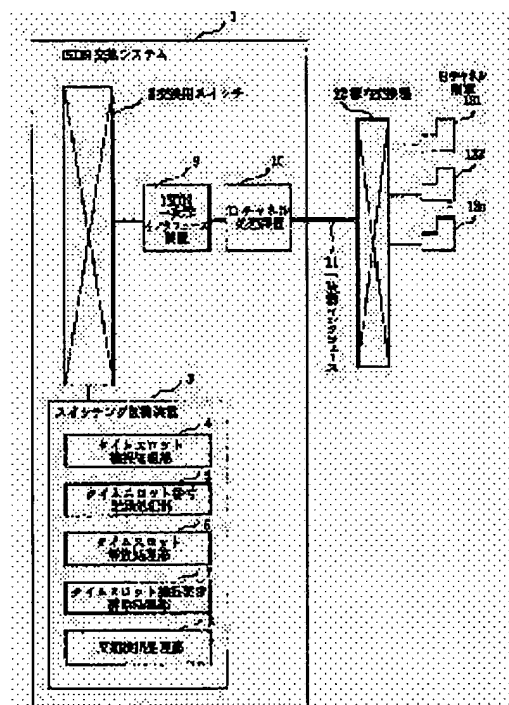
LEGAL STATUS

[Date of request for examination]   09.12.1997

[Date of sending the examiner's decision of   13.07.1999
rejection]

[Kind of final disposal of application other than
the examiner's decision of rejection or
application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's
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[Date of requesting appeal against examiner's
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[Date of extinction of right]

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CLAIMS

[Claim(s)]
[Claim 1] The connection request of the H channel call to an ISDN switching system is received from the primary rate interface of a user and a network interface. In the time-slot prehension method for H channel which catches a number of time slots which need an ISDN switching system for the H channel call When the time slot which needs this ISDN switching system is not able to be caught to said ISDN switching system, A means to record the number of the time slot in use [this] which was not able to be caught, and the number of the time slot of the caught opening on memory, A means to eliminate even if another call carries out the prehension demand of the time slot in use [said] having become an opening to the time slot of a means to detect, and the opening caught to the time slot and the beginning which became this opening, The time-slot prehension method for H channel characterized by having a means to notify that it can connect to the terminal of the relevance which detected that all the time slots in use [said] recorded on said memory became an opening, and has carried out the connection request of the H channel call.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application] Especially this invention relates to the time-slot prehension method for H channel in a primary rate interface about an ISDN switching system.
[0002]
[Description of the Prior Art] By the conventional time-slot prehension method for H channel, it has the function which chooses and catches the time slot for the need on a switching system so that the H channel information sent out with the master station can receive with a called terminal correctly.
[0003] Next, actuation is explained. If the H channel connection request comes through a primary rate interface from a H channel terminal, with an ISDN switching system, time-slot prehension processing will be started, and the time slot for the need will be chosen and caught within limits which exist in order to fulfill the conditions mentioned above. If this goes wrong, an ISDN switching system will perform same processing by following within the limits, if it fails within the limits of all, all connection processings will be stopped, and the connection refusal is told to the H channel terminal with a connection request.
[0004]
[Problem(s) to be Solved by the Invention] By this conventional time-slot prehension method for H channel, when there was a call connection demand, even if it judged whether a time slot can be caught and was not able to catch, processing was terminated, without waiting until it can catch. Since it must also take the combination of a time slot into consideration in order two or more time slots are simultaneously required, and the information sent out with the master station is right and to enable it for H channel to be received by the called terminal, compared with the B channel prehension, it can catch by the quite high probability. There was a trouble that a call connection demand had to be repeatedly carried out from a master station side for compensating this.
[0005]
[Means for Solving the Problem] The time-slot prehension method for H channel of this invention The connection request of the H channel call to an ISDN switching system is received from the primary rate interface of a user and a network interface. In the time-slot prehension method for H channel which catches a number of time slots which need an ISDN switching system for the H channel call When the time slot which needs this ISDN switching system is not able to be caught to said ISDN switching system, A means to record the number of the time slot in use [this] which was not able to be caught, and the number of the time slot of the caught opening on memory, A means to eliminate even if another call carries out the prehension demand of the time slot in use [said] having become an opening to the time slot of a means to detect, and the opening caught to the time slot and the beginning which became this opening, It is a configuration equipped with a means to notify that it can connect to the terminal of the relevance which detected that all the time slots in use [said] recorded on said memory became an opening, and has carried out the connection request of the H channel call.
[0006]

[Example] Next, this invention is explained with reference to a drawing.

[0007] Drawing 1 is the block diagram of the ISDN switching system in which one example of this invention is shown. This ISDN switching system 1 is constituted including the switch 2 for exchange, switching control equipment 3, ISDN primary rate interface equipment 9, and the D channel processor 10, and switching control equipment 3 is controlled by the time-slot prehension processing section 4, the time slot number record processing section 5, the time-slot release processing section 6, the time-slot prehension demand abatement processing section 7, and the periodic detection processing section 8.

[0008] Moreover, the ISDN switching system 1 is connected with the private branch exchange 12 through a primary rate interface 11, and the H channel terminals 131-13n are connected to this private branch exchange 12.

[0009] Actuation is explained below. If a call connection demand is carried out from the H channel terminal 131, the time-slot prehension processing section 4 in the switching control equipment 3 in the ISDN switching system 1 will be started through a primary rate interface 11, and a required number of time slots will be caught.

[0010] The number of the time slot in use which went wrong when prehension went wrong here, and the number of the time slot of the successful opening are recorded in the memory which is not illustrated in switching control equipment 3 by the time slot number record processing section 5, and processing is finished.

[0011] Next, if the H channel terminal which was using the time slot which failed in prehension releases a call, the time-slot release processing section 6 will be started, and the time slot which was during the activity currently recorded in memory is made into an empty time slot. And even if another call carries out a prehension demand to the time slot of the opening caught to the time slot and the beginning which became an opening, the demand is eliminated by the time-slot prehension demand abatement processing section 7.

[0012] The periodic detection processing section 8 which detects the condition in memory is started periodically, and if it detects that all the time slots in use recorded in memory became an opening, it will notify that call connection is possible from the D channel processor 10 to the H channel terminal 131 of relevance through a primary rate interface 11.

[0013]

[Effect of the Invention] As explained above, when this invention is not able to catch the time slot for H channel, The caught time slot and the time slot which was not able to be caught are recorded on memory. Since it constituted so that it might tell that it can connect with the terminal of the relevance which detected that all the time slots in use recorded on memory became an opening, and carried out the connection request while detecting that the time slot which was not able to be caught became an opening It is effective in that the H channel terminal by which the call denial is carried out by the cause which cannot catch the time slot in a switching system does not have to carry out a repetition call connection demand.

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TECHNICAL FIELD

[Industrial Application] Especially this invention relates to the time-slot prehension method for H
channel in a primary rate interface about an ISDN switching system.

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PRIOR ART

[Description of the Prior Art] By the conventional time-slot prehension method for H channel, it has the function which chooses and catches the time slot for the need on a switching system so that the H channel information sent out with the master station can receive with a called terminal correctly.
[0003] Next, actuation is explained. If the H channel connection request comes through a primary rate interface from a H channel terminal, with an ISDN switching system, time-slot prehension processing will be started, and the time slot for the need will be chosen and caught within limits which exist in order to fulfill the conditions mentioned above. If this goes wrong, an ISDN switching system will perform same processing by following within the limits, if it fails within the limits of all, all connection processings will be stopped, and the connection refusal is told to the H channel terminal with a connection request.

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EFFECT OF THE INVENTION

[Effect of the Invention] While having detected that the time slot which recorded the time slot which was able to be caught, and the time slot which was not able to be caught on memory, and was not able to be caught became an opening when the time slot for H channel was not able to be caught in this invention as explained above, it constituted so that it may tell that it can connect with the terminal of the relevance which detected that all the time slots in use recorded on memory became an opening, and carried out the connection request. Therefore, it is effective in that the H channel terminal by which the call denial is carried out by the cause which cannot catch the time slot in a switching system does not have to carry out a repetition call connection demand.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] By this conventional time-slot prehension method for H channel, when there was a call connection demand, even if it judged whether a time slot can be caught and was not able to catch, processing was terminated, without waiting until it can catch. Since it must also take the combination of a time slot into consideration in order two or more time slots are simultaneously required, and the information sent out with the master station is right and to enable it for H channel to be received by the called terminal, compared with the B channel prehension, it can catch by the quite high probability. There was a trouble that a call connection demand had to be repeatedly carried out from a master station side for compensating this.

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MEANS

[Means for Solving the Problem] The time-slot prehension method for H channel of this invention The connection request of the H channel call to an ISDN switching system is received from the primary rate interface of a user and a network interface. In the time-slot prehension method for H channel which catches a number of time slots which need an ISDN switching system for the H channel call When the time slot which needs this ISDN switching system is not able to be caught to said ISDN switching system, A means to record the number of the time slot in use [this] which was not able to be caught, and the number of the time slot of the caught opening on memory, A means to eliminate even if another call carries out the prehension demand of the time slot in use [said] having become an opening to the time slot of a means to detect, and the opening caught to the time slot and the beginning which became this opening, It is a configuration equipped with a means to notify that it can connect to the terminal of the relevance which detected that all the time slots in use [said] recorded on said memory became an opening, and has carried out the connection request of the H channel call.

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EXAMPLE

[Example] Next, this invention is explained with reference to a drawing.
[0007] Drawing 1 is the block diagram of the ISDN switching system in which one example of this invention is shown. This ISDN switching system 1 is constituted including the switch 2 for exchange, switching control equipment 3, ISDN primary rate interface equipment 9, and the D channel processor 10, and switching control equipment 3 is controlled by the time-slot prehension processing section 4, the time slot number record processing section 5, the time-slot release processing section 6, the time-slot prehension demand abatement processing section 7, and the periodic detection processing section 8.
[0008] Moreover, the ISDN switching system 1 is connected with the private branch exchange 12 through a primary rate interface 11, and the H channel terminals 131-13n are connected to this private branch exchange 12.
[0009] Actuation is explained below. If a call connection demand is carried out from the H channel terminal 131, the time-slot prehension processing section 4 in the switching control equipment 3 in the ISDN switching system 1 will be started through a primary rate interface 11, and a required number of time slots will be caught.
[0010] The number of the time slot in use which went wrong when prehension went wrong here, and the number of the time slot of the successful opening are recorded in the memory which is not illustrated in switching control equipment 3 by the time slot number record processing section 5, and processing is finished.
[0011] Next, if the H channel terminal which was using the time slot which failed in prehension releases a call, the time-slot release processing section 6 will be started, and the time slot which was during the activity currently recorded in memory is made into an empty time slot. And even if another call carries out a prehension demand to the time slot of the opening caught to the time slot and the beginning which became an opening, the demand is eliminated by the time-slot prehension demand abatement processing section 7.
[0012] The periodic detection processing section 8 which detects the condition in memory is started periodically, and if it detects that all the time slots in use recorded in memory became an opening, it will notify that call connection is possible from the D channel processor 10 to the H channel terminal 131 of relevance through a primary rate interface 11.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is the block diagram of the ISDN switching system in which one example of this invention is shown.
[Description of Notations]
1 ISDN Switching System
2 Switch for Exchange
3 Switching Control Equipment
4 Time-Slot Prehension Processing Section
5 Time Slot Number Record Processing Section
6 Time-Slot Release Processing Section
7 Time-Slot Prehension Demand Abatement Processing Section
8 Periodic Detection Processing Section
9 ISDN Primary Rate Interface Equipment
10 D Channel Processor
11 Primary Rate Interface
12 Private Branch Exchange
13 1-13n H channel terminal

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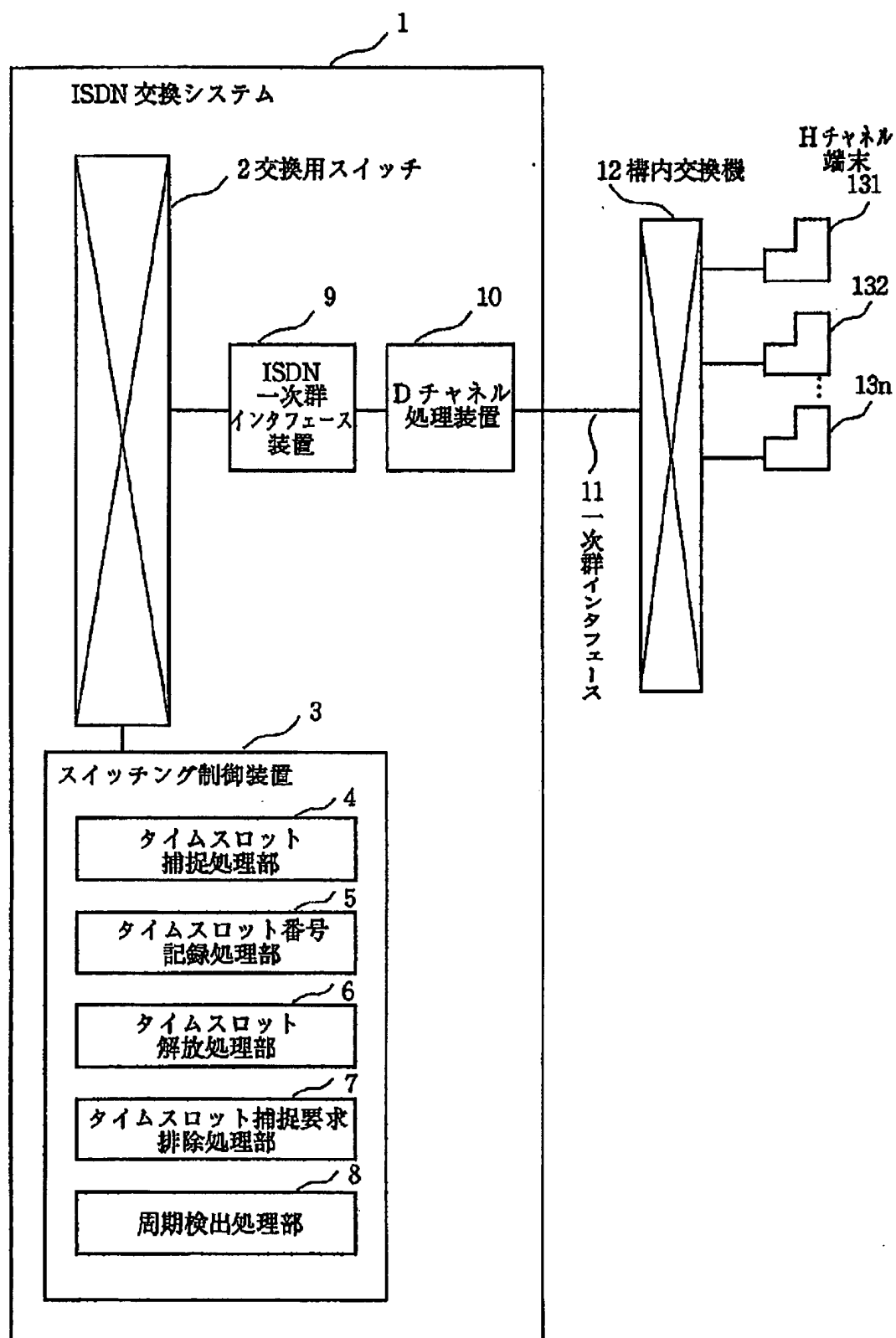**Japan Patent Office is not responsible for any damages caused by the use of this translation.**

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DRAWINGS

[Drawing 1]

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